IREM AMERICA CORPORATION

ATOMIC PUNK II

OWNERS MANUAL

VIDEO GAME OPERATOR:

Don't Get Involved In A Federal Crime. Don't Buy Or Operate Copy Or Unauthorized Boards In Your Games.

Warning



Every operator who buys or operates a counterfeit or unauthorized board (imported or domestic) is contributing to the end of our industry and committing a FEDERAL CRIME.

New criminal laws have recently been enacted that provide for maximum penalties of $250,000 or five years in prison or both, per offense. EACH GAME IS A SEPARATE OFFENSE.

DON'T GET INVOLVED IN THIS CRIMINAL ACT.

FBI

WARNING

Federal law provides severe civil and criminal penalties for the unauthorized reproduction, distribution, or exhibition of copyrighted audiovisual works and video games.

The Federal Bureau of Investigation investigates allegations of criminal copyright infringement.

If you have any information about any unauthorized games in the United States, contact your local FBI or,

American Amusement Machine Association

205 The Strand
Suite 3
Alexandria, Virginia 22314
(703) 548-8044

All information will be treated in confidence.

SAFETY

The following topics should be carefully studied to insure maximum reliability and safety for both serviceman and customer. Shock Hazard: The high voltage present on the monitor may be very dangerous. Extreme caution must be used when working with or around the monitors. Be certain that the grounding strap is attached to the monitor frame. The picture tube in the monitor is also a hazard and should be handled with care. Do not strike, scratch, or subject the tube to more than moderate pressure as it may implode causing serious injury from flying glass. Be certain that the control panel, power supply monitor, and coin door are all properly grounded to the ground wire inside the line cord. Do not remove ground prong off plug end.

PARTS LIST

1 - Manual
1 - 3rd & 4th Player Cables
1 - Marquee Art
1 - PCB

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SUMMIT SERVICE
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St. Paul, MN 55114
(612) 645-9077

WARRANTY REPAIRS

Irem America Corporation PCB have a 90 day warranty from date of shipment. This includes all failures except those caused by the installer such as miswiring.

All PCB must be returned by an authorized Irem America Corporation distributor. A Return Material Authorization must be obtained from Summit Service prior to returning material. A Purchase Order must also be given to Summit Service at this time. The package must be clearly marked with the RMA number.

ATOMIC PUNK II® is protected by federal copyright laws and is the property of Irem America Corporation®. Any unauthorized versions of this game are illegal by federal law. AAMA protected stickers must be attached to the PCB. Please notify Irem America Corporation of any boards not having the AAMA seal.

IMPORTANT F.C.C. WARNING

THIS EQUIPMENT COMPLIES WITH THE REQUIREMENTS IN PART 15 OF FCC RULES FOR A CLASS A COMPUTING DEVICE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA MAY CAUSE UNACCEPTABLE INTERFERENCE OF RADIO AND TV RECEPTION REQUIRING THE OPERATOR TO TAKE WHATEVER STEPS ARE NECESSARY TO CORRECT THE INTERFERENCE. YOUR FCC COMPLIANCE LABEL IS ENCLOSED IN YOUR KIT AND MUST BE ATTACHED TO YOUR GAME PRIOR TO PLACING ON LOCATION. THIS LABEL INDICATES YOUR GAME WAS DESIGNED TO MEET FCC STANDARDS 47CFR15.19. WE ADVISE USING STAPLES IF NECESSARY TO MAKE SURE THE LABEL STAYS ON.

DANGER

The isolation transformer must be used with the monitor and power supply.

This game must be equipped with a three wire 110 volt plug for safety. Under no circumstance remove the ground plug.

DANGER

This game is designed with a JAMMA 56 pin connector. This plug is one of the finest operator friendly features in our industry today. What this means to you is that:

1) 1, 2, A, B, 27, 28, e and f are grounded
2) 3. 4. C and D are +5 volts
3) 5 and E are -5 volts
4) 6 and F are +12 volts

Also, all video and joystick functions are always in the same place. Once a cabinet is wired for JAMMA, it is easily changed from game to game.

Many older games such as Pac Man®, etc., have the power supply on the board. This will not work!!! Only a JAMMA connector with proper voltage will work. Irem America Corporation® recommends using an 11 or 15 amp switching power supply with **Atomic Punk II®**.

MONITORS

Atomic Punk II® is designed to be operated with a horizontal raster scan monitor with negative sync (RGB). This means **Atomic Punk II®** will not work with any X-Y (Tempest, Space Dual, Star Trec), etc. An isolation transformer must be used in conjunction with the monitor. This is for your safety. The monitor also utilizes extremely high voltages. The monitor may also retain a charge for an extended period of time. Safety goggles must be worn while removing or replacing the monitor.

It is highly recommended that the monitor is verified good before the new **Atomic Punk II®** kit is installed in your new and or rebuilt cabinet.

INSTALLATION OF KIT
IN USED CABINET

To Disassemble:

1. Open back door and remove old board set and power supply, if you are using a new switching power supply.

2. Remove marquee glass and monitor glass.

3. Remove control panel and set aside.

4. Remove old wire harness, leaving 110 volt wiring intact. Also, leave the grounding straps to the monitor, coin door, control panel, and power supply intact.

Installation:

1. Mount the board set on the side panel of the cabinet as close to the middle of the game as possible (approximately 10-12" off bottom).

   NOTE: Do not mount board directly below control or any vents or cracks so that liquids may seep on to the board. Do not forget about coins that may drop on to the board. Also, mount the board with edge connector facing up.

2. Mount the power supply on the bottom of the cabinet with connectors facing the rear of the cabinet. An optional mounting might be on the side panel just below the board set, connector to rear.

3. If the game does not have an isolation transformer, you must protect your customers and your game. Install one between the 110 volt line and your monitor/power supply.

4. Place the provided JAMMA wiring harness on the board. Connect the +5, +12, -5, and ground wires to the corresponding lugs on the power supply, connecting all the wires. If you don't, you will probably burn the board connector.

5. Run a wire from +12 volts to the coin door lights. Run a wire from +12 volts to the coin counters. This completes the power requirements.

6. Connect the Audio (+) and Audio (-) to the speaker.

7. Connect the video red, green, blue, ground, and sync to the corresponding wires on the monitor. If the monitor is not a negative composite sync, see sync modifications chart.

8. Cut the marquee to size. Replace the marquee lamp, if needed. Install the marquee panel.

9. Connect the coin 1 and coin 2 wires to the coin switches. Connect the coin counter 1 and coin counter 2 wires to the coin counters.

   NOTE: If you only have one coin counter, see coin counter diagram. It will not matter if the coin counters are only rated at 6 volts, as the pulse is not long enough to burn out the counter.

10. Disassemble the control panel of all the hardware. Do not remove the old panel overlay. Determine where to place the new joystick and buttons if they must be repositioned. Then, cut new holes.

    NOTE: If you are going to use plexiglass over the control panel, we suggest that you use a good ⅛" polycarbonate with a scratch resistant coating. We recommend GENERAL ELECTRIC LEXAN MR5 with margard or TUFFAK CM-2. These do not crack or break with abuse.

    Cut and drill plex as needed. Remove the old control panel overlay carefully and apply the new overlay on top of the old glue. Use an **Exacto** knife to cut out any button or bolt holes. Apply necessary decals over appropriate buttons. Now assemble the control panel.

11. Bolt the control panel to the cabinet. Now connect the appropriate wires to the correct switches. Connect the 1 player and 2 player start wires.

12. Be sure to install the FCC cage to avoid unnecessary radio frequency interference.

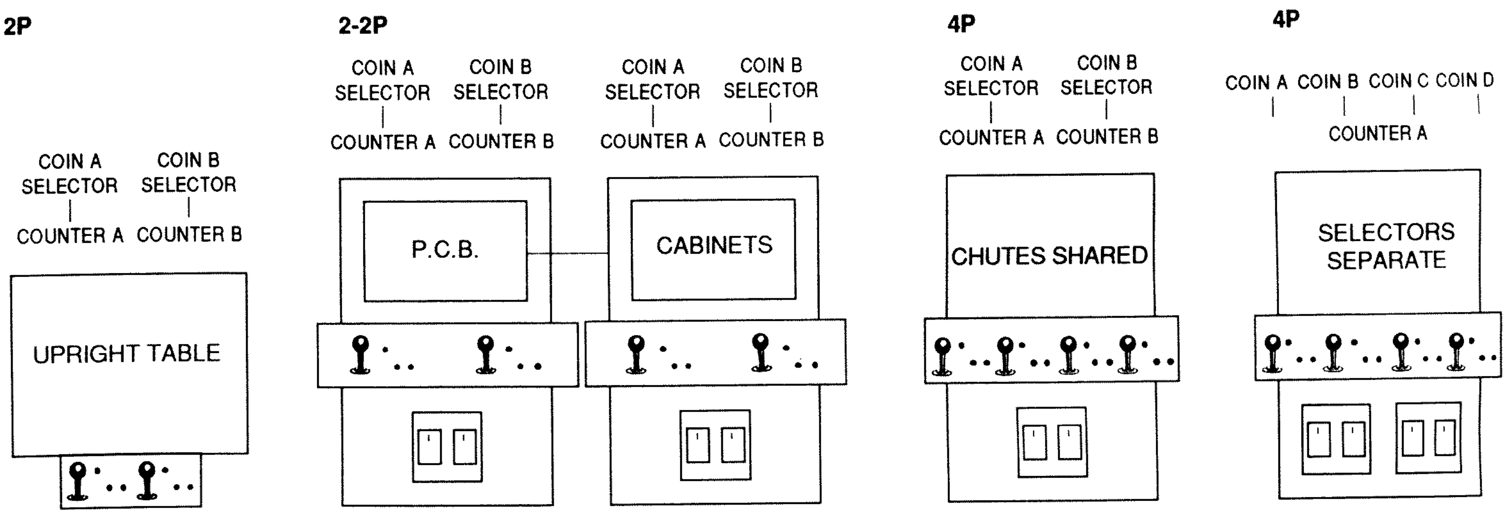
13. Power up the game. Look over your installation for errors, and then apply power, listening for unusual sounds. Check for smoke or sparks. If everything is okay, wire tie all wires to form a nice, neat wiring harness. Clean the cabinet inside and out. Measure the +5 volts on the furthest point from the edge connector and adjust 5 volts to 5.05 volts. Use a tinted plex over the monitor if there are burns in the screen. We suggest bronze or grey tinted plex. Touch up the cabinet with fresh paint, and then repair all cabinet dents or chips, using an auto body product called **Duraglass.** This is similar to bondo. You can consult your local auto body shop or auto parts supplier for this product, as well as advice on how to use it.

14. Be sure your ground plug is good. All metal exposed to the player must be grounded (coin door, control panel, etc.) including all metal inside exposed.

ATOMIC PUNK II®

Irem America Corporation recommends installing your new **ATOMIC PUNK II** kit in only a new or refurbished cabinet. Installing **ATOMIC PUNK II** in an older cabinet will result in lower earnings. The cabinet should be as follows:

1. horizontal monitor
2. 11 amp or larger power supply
3. monitor not laying down flat.
4. **Use only 4 way joystick**



The counters on the side of 3, 4P in no use.

CABINETS

- **2P UPRIGHT/TABLE**
  - COIN MODE 1
    1 or 2 coin selectors (for the same kind of coins)
    Only 1 coin counter for Selector A.
  - COIN MODE 2
    2 coin selectors (for different kind of coins)
    2 coin counters (1 for each selector)

- **4P SELECTORS SHARED**
  - COIN MODE 1
    1 or 2 coin selectors (for the same kind of coins)
    Only 1 coin counter for Selector A
  - COIN MODE 2
    2 coin selectors (for different kind of coins)
    2 coin counters (1 for each selector)

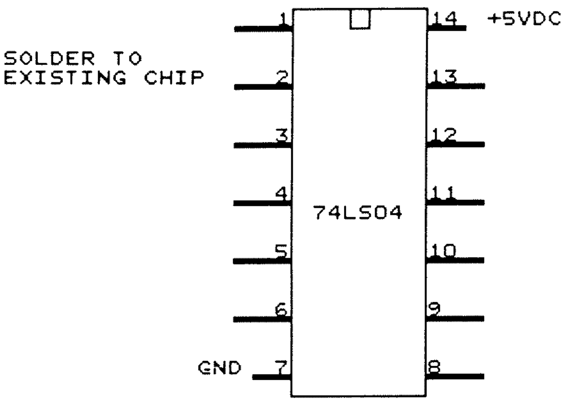
- **4P SELECTORS SEPARATE**
  - COIN MODE 1
    4 coin selectors (1 for each player)
    Only 1 coin counter for all selectors
  - COIN MODE 2
    Cannot be set.

- **4P 2P + 2P**
  Two 2 P cabinets are connected to each other.
  - COIN MODE 1
    Each table with 1 or 2 coin selectors (for the same kind of coins)
    Only 1 coin counter for selector A of 1, 2P side
  - COIN MODE 2
    2 coin selectors (1 for each table)
    2 coin selectors for each of selectors A and B for both tables.

1. Monitor Sync

If your monitor does not have dual polarity positions for sync, you may use on of the following methods to get your game going.

CURE 1: Install a simple one I.C. Circuit on your logic board. This I.C. may be "piggy backed" on to another 7404 series chip for power by bending up all but the two power pins so that they are parallel to the top surface of the new I.C. and then connecting the power pins only to the existing chip. *(See Fig. 1)* Next connect the sync wires as shown in Fig. 2. *(Note: Figure 2 shows a hookup for either* ***composite*** *or* ***separate*** *syncs.)*



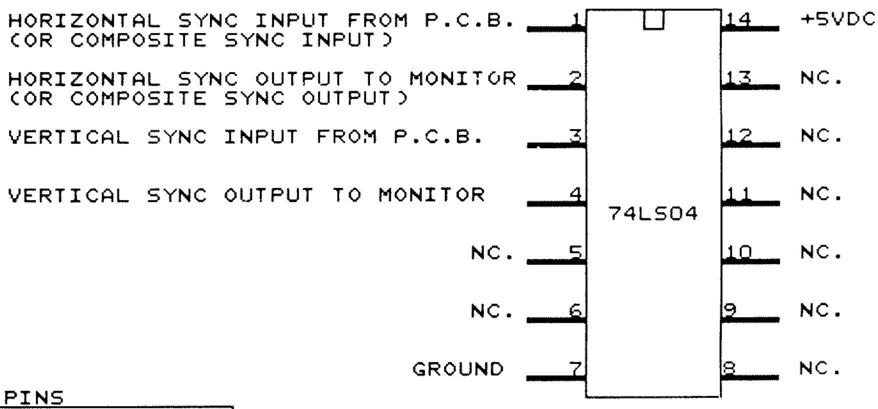


FIG. 1

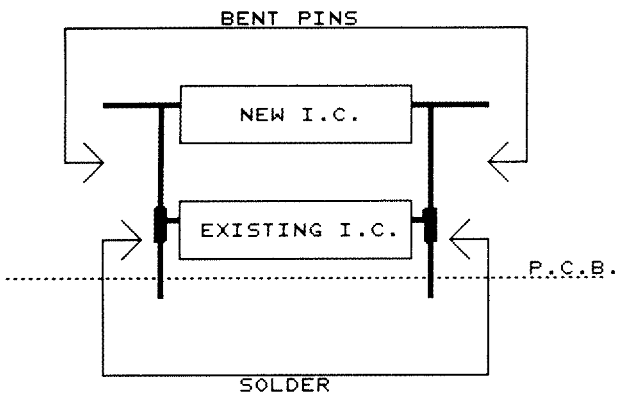


FIG. 2

CURE 2: Used for Wells-Gardner Video-Sync boards with positive sync connections only. *(Vertical mount board 85x14 OB.)*

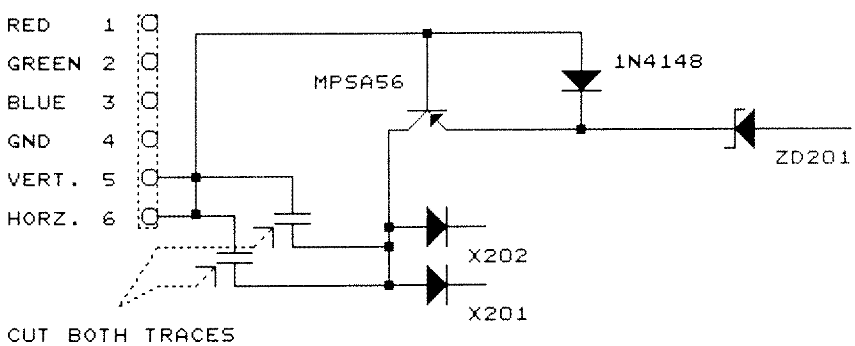
Cut the traces on the solder side of the board between input pins 5 & 6 to the unbanded *(anode)* ends of diodes X201 & X202.

Add MPSA 56 transistor as follows:

Collector to anode leads of diodes X201 & X202. Base pins 5 & 6 of the video input connector. Emitter to cathode *(banded)* lead of zener diode ZD201.

Insert a 1N4148 diode - cathode to the emitter of the MPSA56 and anode to the base. *(See Fig. 3)*

FIG. 3



2. Horizontal Tearing

CAUSE: The negative sync signal of most logic sets are slightly different than the GO7-CBO monitor negative sync inputs. The result of this mismatch is a horizontal "wave" or "curl".

CURE 1: On the monitor deflection board, replace C303 with a 10uf 25V radial lead capacitor with the positive lead towards the collector of X305. *(CAUTION: be sure to check this step as the original cap is not polarized.)* Then replace C501 with the cap removed from the C303 location.

CURE 2: Connect 1N4148 fast-switching diodes across both the positive and negative sync inputs to the monitor. *(See Fig. 4)* NOTE: Both diodes must be installed or you will not have vertical stability.

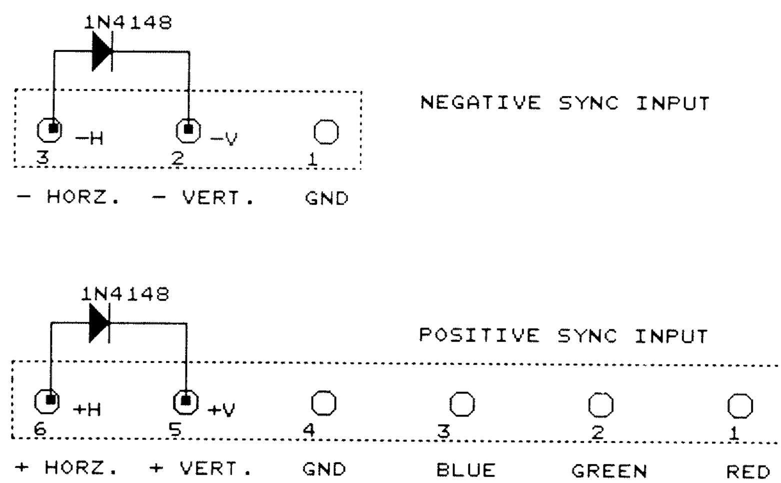


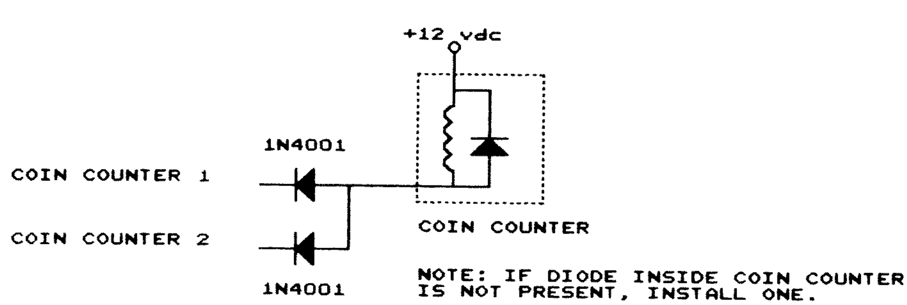
FIG. 4

CURE 3: Join negative sync inputs J2 and J3 together with a jumper. Locate W102 and install a jumper from W102 to either J2 or J3.

CURE 4: For Wells-Gardner K4600 series monitors.
Replace C356 (4 7uf 25V) on the Horizontal/vertical board *(vertically mounted board nearest the flyback transformer)* and center the horizontal hold pot. Turn L351 for the best horizontal stability and fine-tune with the horizontal width pot.

COIN COUNTER DIAGRAM

If only one coin counter is to be used install two diodes in the following manner:



ATOMIC PUNK II® — HORIZONTAL SCREEN — 4 x 4 WAY JOYSTICK 2 BUTTONS

DIP-1

FUNCTION	SWITCH	1	2	3	4	5	6	7	8
NUMBER OF PLAYERS	3	OFF	OFF						
	2	ON	OFF						
	4	OFF	ON						
	5	ON	ON						
DIFFICULTY	NORMAL*			OFF	OFF				
	EASY*			ON	OFF				
	HARD			OFF	ON				
	VERY HARD			ON	ON				
CONTINUATION MODE	YES						OFF		
	NO						ON		
SOUND IN DEMO	NO							OFF	
	YES							ON	
DIAGNOSTIC TEST	NO								OFF
	YES								ON

DIP-2

FUNCTION		SWITCH	1	2	3	4	5	6	7	8
FILP PICTURE		NO	OFF							
		YES	ON							
CABINET TYPE		2P UPRIGHT/TABLE		[illegible]	OFF					
		4P SELECTORS SHARED		OFF	ON					
		4P SELECTORS SEPARATE		[illegible]	OFF					
		4P 2P + 2P		ON	ON					
MODE 1		1 COIN 1 PLAY				OFF	OFF	OFF	OFF	OFF
		2 COINS 1 PLAY				OFF	ON	OFF	OFF	OFF
		3 COINS 1 PLAY				OFF	OFF	ON	OFF	OFF
		4 COINS 1 PLAY				OFF	ON	ON	OFF	OFF
		5 COINS 1 PLAY				OFF	OFF	OFF	ON	OFF
		6 COINS 1 PLAY				OFF	ON	OFF	ON	OFF
		1 COIN 2 PLAYS				OFF	OFF	ON	ON	OFF
		1 COIN 3 PLAYS				OFF	ON	ON	ON	OFF
		1 COIN 4 PLAYS				OFF	OFF	OFF	OFF	ON
		1 COIN 5 PLAYS				OFF	ON	OFF	OFF	ON
		1 COIN 6 PLAYS				OFF	OFF	ON	OFF	ON
		2 COINS 3 PLAYS				OFF	ON	ON	OFF	ON
		3 COINS 2 PLAYS				OFF	OFF	OFF	ON	ON
		4 COINS 3 PLAYS				OFF	ON	OFF	ON	ON
		*CONTINUATION COIN				OFF	OFF	ON	ON	ON
		FREE PLAY				OFF	ON	ON	ON	ON
MODE 2	COIN MECH. (A)	1 COIN 1 PLAY				ON	OFF	OFF		
		2 COINS 1 PLAY				ON	ON	OFF		
		3 COINS 1 PLAY				ON	OFF	ON		
		5 COINS 1 PLAY				ON	ON	ON		
	COIN MECH. (B)	1 COIN 2 PLAY				ON			OFF	OFF
		1 COIN 3 PLAYS				ON			ON	OFF
		1 COIN 5 PLAYS				ON			OFF	ON
		1 COIN 6 PLAYS				ON			ON	ON

N.B.
* Please turn off the power switch before changing the DIP SW setting, or the change may not take effect.
* Select Coin Mode 1 in case a single coin selector or two selectors for coins of the same value are used.
* Select Coin Mode 2 in case two coin selectors of coins of different values are used.
* CONTINUATION COIN is the mode which starts the game with 2 coins, but continues it with 1 coin alone. When this mode is set, no other coin modes can be set. For two players, 4 coins to start, 2 coins to continue in this mode.
* DIP SW3 is not used.

ATOMIC PUNK II®
JAMMA EDGE CONNECTOR/CABLE

COMPONENT SIDE			SOLDER SIDE		
FUNCTION	COLOR	POS	POS	COLOR	FUNCTION
GROUND	BLK	1	A	BLK	GROUND
GROUND	BLK	2	B	BLK	GROUND
+5 VOLTS	RED	3	C	RED	+5 VOLTS
+5 VOLTS	RED	4	D	RED	+5 VOLTS
-5 VOLTS	BRN	5	E	BRN	-5 VOLTS
+12 VOLTS	BLU	6	F	BLU	+12 VOLTS
PREVENT KEY		7	H		PREVENT KEY
COIN COUNTER #1	BLU/BRN	8	J	WHT/PUR	COIN COUNTER #2
GROUND	BLACK	9	K	BLACK	GROUND
AUDIO POS +	WHT/BLK	10	L	BLK	AUDIO NEG -
		11	M		
VIDEO RED	RED	12	N	GRN	VIDEO GRN
VIDEO BLU	BLU	13	P	WHT	VIDEO SYNC*
VIDEO GND	BLK	14	R	BRN/WHT	SERVICE SWITCH
TEST	YEL	15	S	WHT/BRN	
COIN INPUT 1	WHT/YEL	16	T	GRN/YEL	COIN INPUT 2
START 1	PNK/BLK	17	U	RED/BLK	START 2
1 P DOWN	ORG/BLU	18	V	BRN/BLU	2 P UP
1 P DOWN	GRN/ORG	19	W	ORG/WHT	2 P DOWN
1 P LEFT	GRN/BLU	20	X	ORG/GRN	2 P LEFT
1 P RIGHT	RED/YEL	21	Y	WHT/ORG	2 P RIGHT
1 P BOMB	RED/WHT	22	Z	BRN/BLK	2 P BOMB
1 P REMOTE CONTROL BOMB	WHT/RED	23	a	YEL/WHT	2 P REMOTE CONTROL BOMB
	YEL/BLK	24	b	BRN/GRN	
		25	c		
		26	d		
GROUND	BLK	27	e	BLK	GROUND
GROUND	BLK	28	f	BLK	GROUND

* Video sync composite negative.

KD/DYNAMO — UNIVERSAL VIDEO WIRING
56 PIN EDGE CONN. PIN-OUT CHART
(JAMMA COMPATIBLE)

COMPONENT SIDE			SOLDER SIDE		
FUNCTION	COLOR	POS	POS	COLOR	FUNCTION
GROUND	BLK	1	A	BLK	GROUND
GROUND	BLK	2	B	BLK	GROUND
+5 VOLTS	RED	3	C	RED	+5 VOLTS
+5 VOLTS	RED	4	D	RED	+5 VOLTS
-5 VOLTS	WHITE	5	E	WHITE	-5 VOLTS
+12 VOLTS	YELLOW	6	F	YELLOW	+12 VOLTS
KEY		7	H		KEY
COIN COUNTER #1	BRN	8	J		COIN COUNTER #2
COIN LOCK OUT 1	RED	9	K		COIN LOCK OUT 2
SP (+)	WHT	10	L	WHT/BLK	SP (-)
N.C.	BLUE-OPTION	11	M	OP.-BLU/BLACK	N.C.
VIDEO RED	RED	12	N	GRN	VIDEO GRN
VIDEO BLU	BLU	13	P	GRAY	VIDEO SYNC*
VIDEO GND	BLK	14	R	RED/BLACK	SERVICE SWITCH
TEST SW.	BROWN	15	S	OP.-BRN/BLACK	TILT SW.
COIN SW. 1	WHITE	16	T		COIN SW. 2
START 1	GRAY	17	U	WHITE/GRAY	START 2
1 P UP	VIOLET	18	V	WHITE/VIOLET	2 P UP
1 P DOWN	BLUE	19	W	WHITE/BLUE	2 P DOWN
1 P LEFT	GREEN	20	X	WHITE/GREEN	2 P LEFT
1 P RIGHT	YELLOW	21	Y	WHT/YELLOW	2 P RIGHT
1 P PUSH 1	ORANGE	22	Z	WHT/ORANGE	2 P PUSH 1
1 P PUSH 2	RED	23	a	WHT/RED	2 P PUSH 2
1 P PUSH 3	BROWN	24	b	WHT/BROWN	2 P PUSH 3
N.C.	BLUE/WHT	25	c	GREEN/WHT	N.C.
N.C.	RED/WHT	26	d	YELLOW/WHT	N.C.
GROUND	BLK	27	e	BLK	GROUND
GROUND	BLK-OPTION	28	f	BLK-OPTION	GROUND

* Video sync composite negative

- 4-way joysticks, each with two buttons, and a horjzontally positioned monitor are required.
- When the game is set 4P UPRIGHT A (No. 2 and No. 3 of DIP SW 2 OFF), only the coin mode 1 (No. 4 of DIP SW 2 OFF) can be used.
- When the game is set 4P UPRIGHT B (No. 2 of DIP SW 2 OFF and No. 3 of DIP SW 2 ON), 2P UPRIGHT (No. 2 of DIP SW 2 ON and No. 3 of DIP SW 3 OFF) or 2P TABLE TYPE (No. 2 and No. 3 of DIP SW 2 ON), either coin mode 1 (No. 4 of DIP SW 2 OFF) or coin mode 2 (No. 4 of DIP SW 2 ON) can be used.
- 1-COIN CONTINUE is the mode which starts the game with 2 coins but continues it with 1 coin alone. When this mode is set, no other coin modes can be set. For two players, 4 coins to start, 2 coins to continue.
- When the game is set 4P UPRIGHT A, each coin selector can be used independently.
- When the game is set 4P UPRIGHT B, a coin selector can be used as a mutual.

CN 3

1	GROUND
2	3P RIGHT
3	3P LEFT
4	3P DOWN
5	3P UP
6	3P START
7	3P COIN
8	3P REMOTE CONTROL BOMB
9	3P SETS BOMBS

CN 4

1	GROUND
2	4P RIGHT
3	4P LEFT
4	4P DOWN
5	4P UP
6	4P START
7	4P COIN
8	4P REMOTE CONTROL BOMB
9	4P SETS BOMBS

Diagnostic Test

(1) **Test Items**

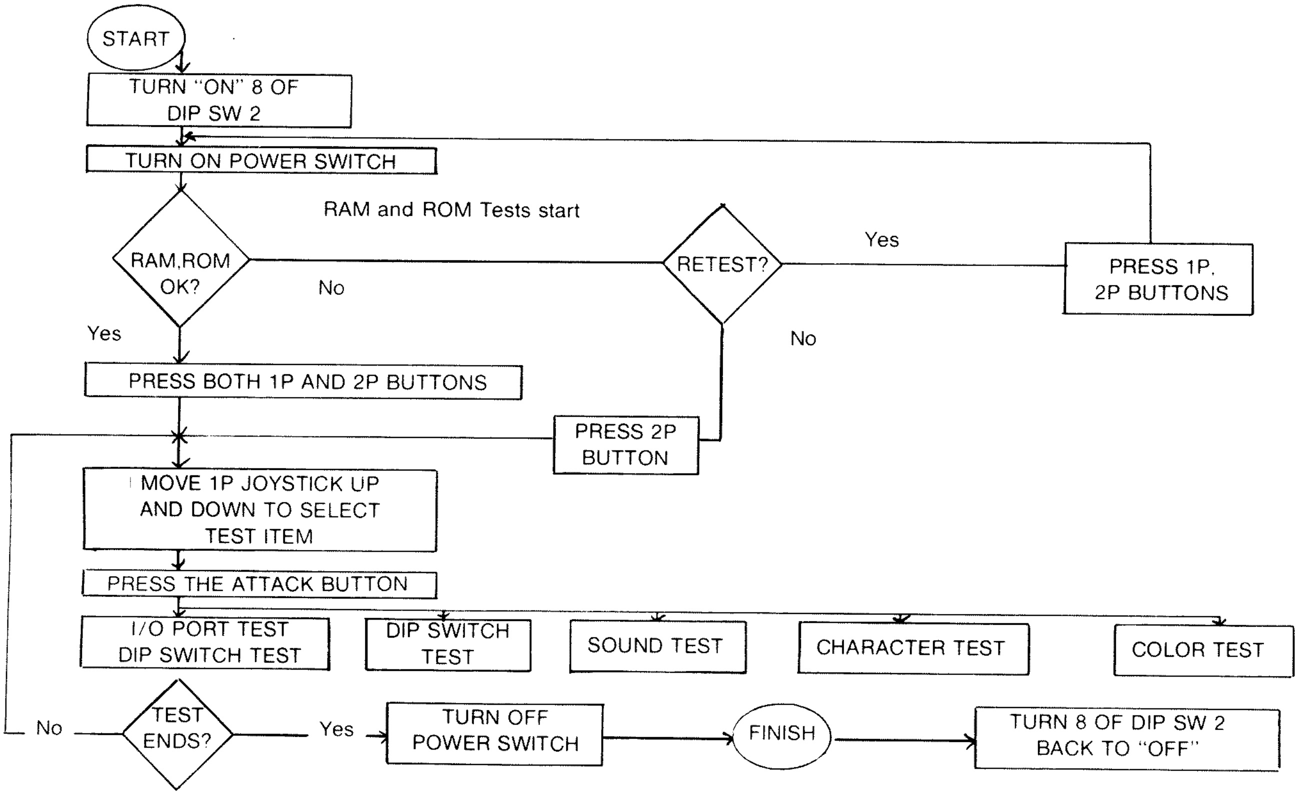
The following tests are made:

1 RAM Test
2 ROM Test
3 I/O PORT Test
4 DIP Switch Test
5 SOUND Test
6 CHARACTER Test
7 COLOR Test
8 CROSS HATCH Test

As soon as the number 8 of the DIP Switch 1 is turned to "ON" and the Power Switch is switched on, the Test 1 and 2 are started.

To finish the Tests, turn off the Power Switch and then the number 8 of the DIP Switch 1 to "OFF".

(2) **Test Procedures**



(3) **RAM and ROM TEST**

Although the picture does not appear on the screen and only various patterns appear on it for a while after turning on the power switch, RAM's for the picture are being tested during this time. If RAM's are found OK by the test, "RAM OK" and "ROM OK" will be displayed on the screen.

If RAM(s) is (are) not good, "RAM NG ☐ " will appear on the screen.

The figure following the RAM NG" indicates the location of the defective RAM.

00 WORK RAM (BYTE)
01 WORK RAM (WORD)
02 V_RAM A (WORD)
03 V_RAM B (WORD)
04 V_RAM C (WORD)
05 V_RAM D (WORD)
06 RASTER SCROLL RAM A (WORD)
07 RASTER SCROLL RAM B (WORD)
08 RASTER SCROLL RAM C (WORD)
09 PALLETE BUFFER BANK 0 (WORD)
10 PALLETE BUFFER BANK 1 (WORD)
11 PALLETE BUFFER BANK 2 (WORD)
12 PALLETE BUFFER BANK 3 (WORD)
13 OBJECT BUFFER BANK 0 (WORD)
14 OBJECT BUFFER BANK 1 (WORD)
15 PALLETE RAM BANK 0 (WORD)
22 PALLETE RAM BANK 7
23 OBJECT RAM (WORD)

If ROM(s) is(are) defective, "ROM NG ☐ " will appear on the screen.

When RAM's and ROM's are found all good after completing this RAM and ROM TEST, you can move over to the next test item by pressing the 1P and 2P start buttons.

In case any RAM(s) or ROM(s) is(are) found faulty after completing the RAM and ROM TEST, press the 1P start button to repeat the test. Press the 2P start button to go to the next test.

(4) **Display of the Test Items**

The following test items are shown so that you may select a test item you want by moving the 1P joystick up and down:

1. I/O
2. SOUND
3. CHARACTER
4. COLOR
5. CROSS HATCH
6. OPTION
7. EXIT

Press the Attack button to get the test indicated in red started. Press the 1P and 2P start buttons to end the same test.Press the 1P start button to start "OPTION" test.

(5) **I/O Port Test**

The status when each joystick, button, and coin is turned "ON" is shown.

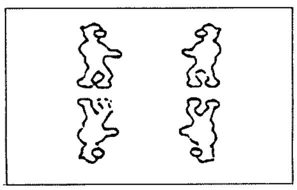
	8 7 6 5 4 3 2 1 8 7 6 5 4 3 2 1
IN PORT 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
IN PORT 2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
IN PORT 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
DIP SW	0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
	(0-OFF, 1-ON)

(6) **Sound Test**

The screen shows the number of each sound and the test is made about whether the corresponding sound is given. Push down the 1P joystick to move over to the next sound's test.

(7) **Character Test**

The player character is displayed in the center of the screen.

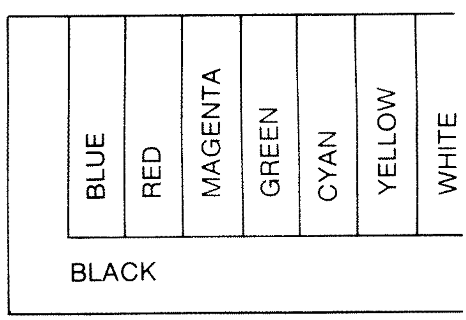


Make sure that the character is shown vertically and horizontally reversed as shown on the left.

(8) **Color Test**

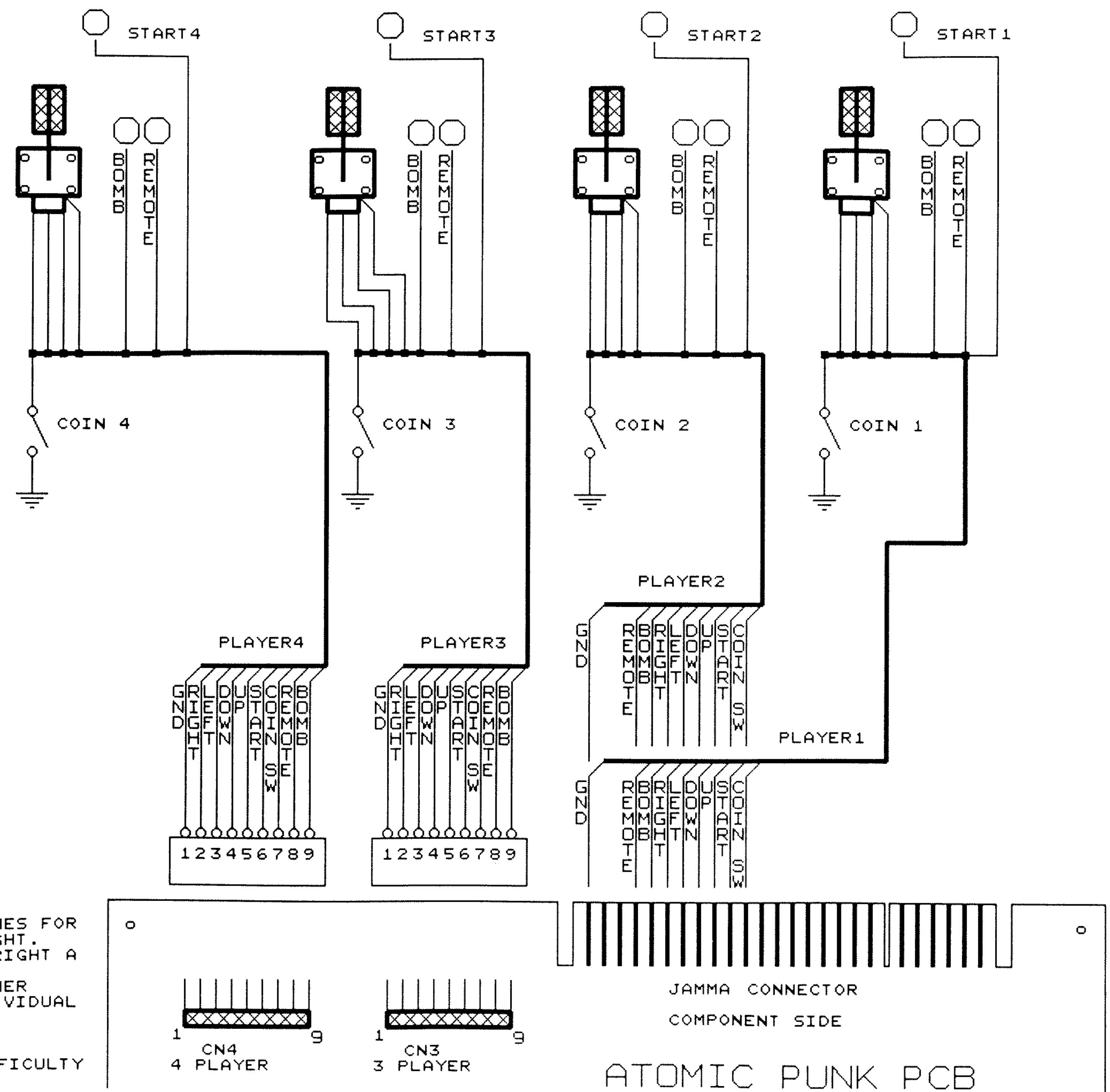
By moving down the 1P joystick, the test can be advanced like
1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 1

1 The whole screen shows only blue color.
2 The whole screen shows only red color.
3 The whole screen shows only magenta color.
4 The whole screen shows only green color.
5 The whole screen shows only cyan color.
6 The whole screen shows only yellow color.
7 The whole screen shows only white color.
8 A color pattern is displayed as illustrated on the right.



(9) **CROSS HATCH TEST**

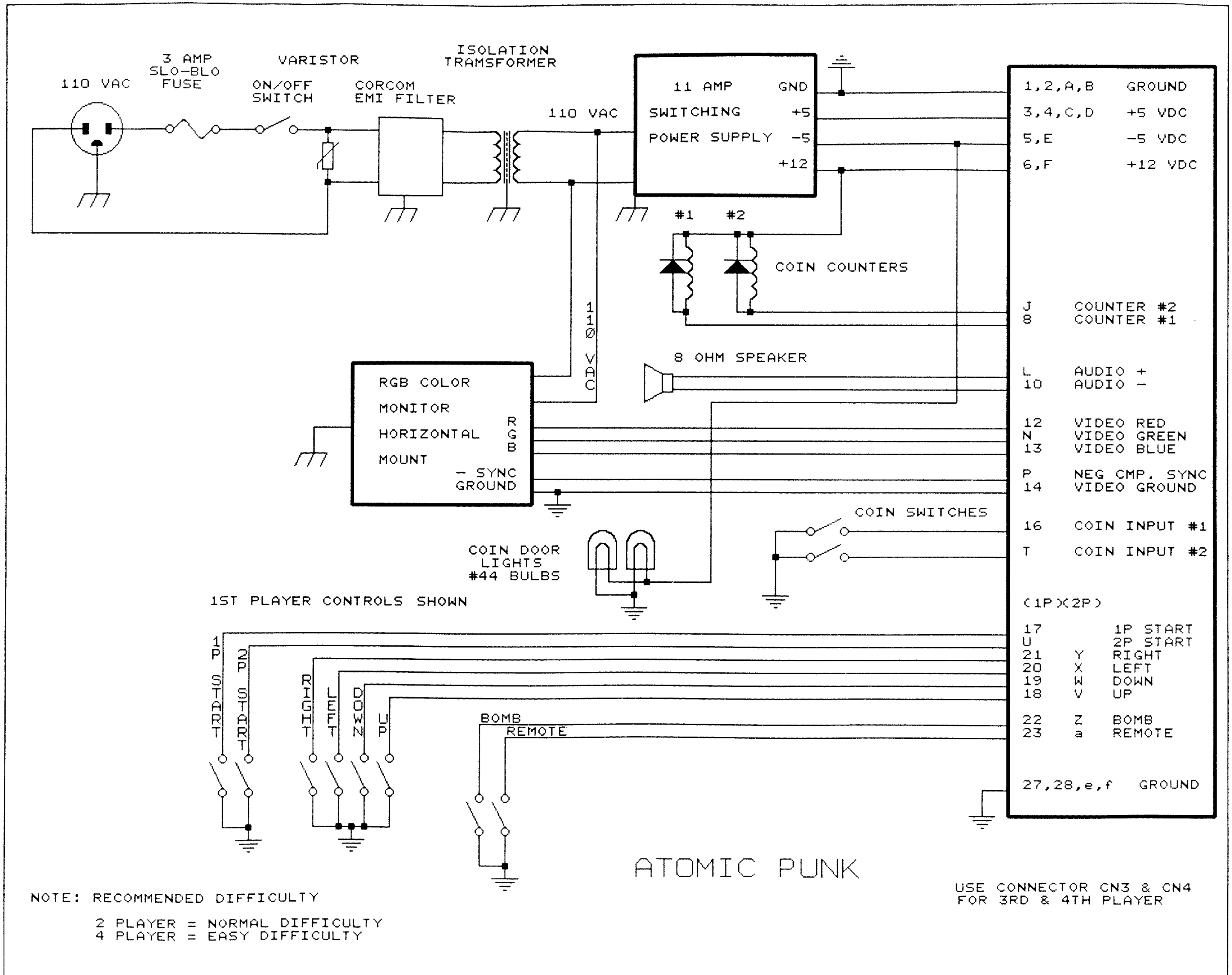
The white lines represent CROSS HATCH PATTERN on the screen.



NOTE: SET DIP SWITCHES FOR 4 PLAYER UPRIGHT.
USE EITHER UPRIGHT A OR UPRIGHT B TO SELECT EITHER COMMON OR INDIVIDUAL COIN ENTRIES

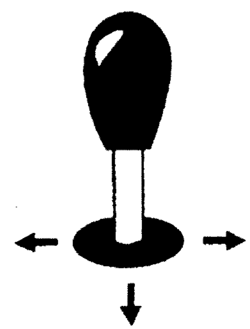
SET 2 PLAYER DIFFICULTY ON NORMAL

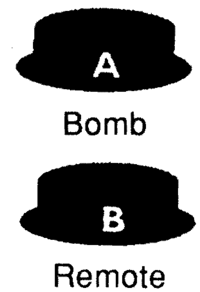
SET 4 PLAYER DIFFICULTY ON EASY


110 VAC
3 AMP SLO-BLO FUSE
ON/OFF SWITCH
VARISTOR
CORCOM EMI FILTER
ISOLATION TRAMSFORMER
110 VAC
11 AMP
SWITCHING
POWER SUPPLY
GND
+5
-5
+12
#1
#2
COIN COUNTERS
8 OHM SPEAKER
110 VAC
RGB COLOR
MONITOR
HORIZONTAL
MOUNT
R
G
B
- SYNC
GROUND
COIN DOOR LIGHTS #44 BULBS
COIN SWITCHES
1ST PLAYER CONTROLS SHOWN
1P START
2P START
RIGHT
LEFT
DOWN
UP
BOMB
REMOTE
1,2,A,B GROUND
3,4,C,D +5 VDC
5,E -5 VDC
6,F +12 VDC
J COUNTER #2
8 COUNTER #1
L AUDIO +
10 AUDIO -
12 VIDEO RED
N VIDEO GREEN
13 VIDEO BLUE
P NEG CMP. SYNC
14 VIDEO GROUND
16 COIN INPUT #1
T COIN INPUT #2
(1P)(2P)
17 1P START
U 2P START
21 Y RIGHT
20 X LEFT
19 W DOWN
18 V UP
22 Z BOMB
23 a REMOTE
27,28,e,f GROUND
ATOMIC PUNK
USE CONNECTOR CN3 & CN4
FOR 3RD & 4TH PLAYER
NOTE: RECOMMENDED DIFFICULTY
2 PLAYER = NORMAL DIFFICULTY
4 PLAYER = EASY DIFFICULTY

ATOMIC PUNK II

Instructions:





Tap **A BUTTON** to **PLACE BOMBS**

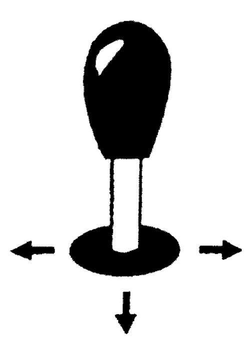
Tap **B BUTTON** to **EXPLODE REMOTE BOMBS**

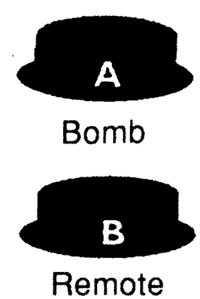
4-WAY JOYSTICK
(ONLY)

Game will not play properly with 8-way joysticks.

ATOMIC PUNK II

Instructions:





Tap **A BUTTON** to **PLACE BOMBS**

Tap **B BUTTON** to **EXPLODE REMOTE BOMBS**